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NATURAL DISASTER REDUCTION

Are the cities of today and tomorrow waiting for a disaster to happen? Every day, there are news reports about cities stricken by natural or technological disaster. This is likely to continue and become worse, unless we change our policies and actions on environment and development. Philip Boullé, Director of the United Nations Secretariat for the International Decade for Natural Disaster Reduction, discusses how to make cities safer before disaster strikes.

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ANNOUNCER: From United Nations Headquarters in New York, this is **World Chronicle**, an unedited interview programme about major global issues.

Here now to introduce our guest is the host of today's **World Chronicle**.

LITTLEJOHNS: I'm Michael Littlejohns, and this is **World Chronicle**.

Natural disasters are on the increase. Their numbers were three times higher world-wide in the past ten years than in the 1960's; economic losses now exceed 60 billion US dollars a year. As disasters increase, it is becoming clear that neither government nor local communities can afford to assume the costs of compensating citizens. The only affordable solution lies in mitigation and prevention measures.

Our guest today is Philippe L. Boullé, Director of the Secretariat for the International Decade for Natural Disaster Reduction. Joining me to talk with Mr. Boullé is Walter Pfaeffle of *Kuwait News Agency* and Ian Williams of *The Nation*.

Mr. Boullé, welcome to **World Chronicle**.

BOULLÉ: Thank you:

LITTLEJOHNS: Mr. Boulle, in the introduction we have spoken about the affordable solution of mitigation and prevention measures. What are we talking about? I mean you can't prevent a hurricane from happenings so what are the prevention measures that can be taken to prevent these enormous losses in both lives and property?

BOULLÉ: Yes. As you rightly point out, you cannot prevent a hurricane from happening but that's a natural hazard. What you can do is prevent that natural hazard from turning into a disaster causing major economic losses and causing loss of life. And just to take the example of a hurricane, or a cyclone, or a typhoon, it's the same thing. For example, you can have protection measures in building codes to make sure that you build houses that will resist such hurricanes and cyclones. You can also ensure evacuation procedures, you can also ensure that you protect your life lines -- water and electricity -- or you build infrastructure that will not be subject to the force of hurricanes. In passing, too many people believe that hurricanes, for example, their greatest damage is done by the wind. That is not always true. Trees are uprooted because there is too much water in the soil. So one has to understand, better know from the scientific point of view, what is the

hazard, what are its possible effects and then from that derive measures that will ensure that when it comes you suffer the least possible damage.

LITTLEJOHNS: Mr. Boullé, that sounds very good and I am sure it's a wonderful idea but that in itself requires surely an enormous investment on the part of the countries concerned, particularly developing countries that do not perhaps have the expertise and certainly do not have the financial wherewithal to do the kinds of things that you are talking about.

BOULLÉ: Of course, investment is necessary but investment before a disaster come, sometimes it's much cheaper than after the disaster happens. I will give the example of a country like Ecuador right now. The losses estimated from the recent El Niño about 2.5 billion dollars. In terms of infrastructure alone about one million ....

LITTLEJOHNS: This was preventable do you say?

BOULLÉ: I would say that the idea is now to build infrastructure that would withstand much more the elements of El Niño because you need to have a better scientific knowledge of El Nino and a knowledge of its impact on such infrastructures. It will take about five years to rebuild the infrastructure in this country and in about five years,,,

LITTLEJOHNS: You're talking about Ecuador?

BOULLÉ: Yes, absolutely. And in five years there will probably be another El Niño so you can't even withstand just the cost of rebuilding what you've just finished building if it breaks again.

LITTLEJOHNS: So it's five hundred million dollars a year for five years?

BOULLÉ: Absolutely, sort of. So that's the issue.

PFAEFFLE: Mr. Boullé, there are all kinds of new technologies now to predict natural disasters yet the number of natural disasters is going up. Do you foresee a time when those technologies catch up?

BOULLÉ: I think that technology, yes, the technology has caught up already to a very large extent. The problem is not so much that there were disasters and technology needs to adapt to it, the problem is that the vulnerability of populations around the world has increased tremendously. We have created a world which is a world of risk, and we

have a false impression that we are not going to suffer from these risks and so it is for us very important to know what are the dangers and understand that what we do in becoming a more sophisticated society in fact brings us back to a greater vulnerability to some of these hazards. Let me add one point which I think needs to be made. If we talk about prevention, some people say, well, are you going to prevent all disasters from happening and there will be none? Obviously not. But it's about asking whether somebody who gets a Noble Prize for cancer that means that there will be no cancers at all in people as well. No, prevention is to try to limit the damage from disasters and we know that this damage will continue in years to come. But we need absolutely to ensure that it will not increase.

WILLIAMS: So to be very strictly grammatical, we are talking about natural disaster mitigation rather than reduction. That we are not reducing the number of them but we are trying to mitigate the effects of them.

BOULLÉ: Well sort of. But you know in the economic and the social fields, the words mitigation, prevention and preparedness, etc. have got very strange meanings and it's difficult to agree fully on what they mean.

WILLIAMS: Specifically, one of the things... For example the Chinese claimed one very big success about earthquake prediction, but when I was reading the "New Scientist" recently, a lot of the people in the field seem to think that earthquake prediction is on a par with astrology as a useful tool for prediction. Have you looked into this and is there any scope you think for?

BOULLÉ: Well, I was in China about a month ago and I visited the Chinese Seismology Institute. The issue is earthquakes are probably the only natural hazard for which there is right now no accurate forecast that can be made. There are several prediction techniques which are being used and in certain cases we give some measure of success but not enough to ensure that this is really something which needs to be taken into account now. So earthquakes are one of the most difficult areas and this is why more scientific research needs to be done in that field. I would add that we have in our Secretariat a project to better understand earthquakes and especially to try to find out how

to mitigate , the possible impact in cities and towns, you know. And the issue of prediction is what do you do with it. If you are a decision-maker, if you are the mayor of a city and you are being told there will be an earthquake do you tell the whole city to evacuate? Do you send them somewhere? What do you do? And if you are the Mayor of Mexico City, if you think about evacuation, where would you go with more than 10 million, 1.5 million people?

WILLIAMS: You could reduce the disaster of Mexico by not letting them back in and keeping the city as a less populated city.

LITTLEJOHNS: But are the Chinese still building houses, office structures on known faults where earthquakes are likely to happen?

BOULLÉ: I think they do.

LITTLEJOHNS: ... as is the case in California.

BOULLÉ: Yes. I think that the problem is it's very difficult in China especially in which more than fifty percent of the world's earthquakes occur since the beginning of the century, to say that you are going to be in an area which is completely free from earthquakes. But there is a quality of zoning and of trying to get people to live in places which are less earthquake-prone. So we have a two-year case study in the city of Sidon, which is earthquake-prone, to find out what is the perception of the population. What do they think? Could they move to another place? What is the cost of moving them emotionally, as well as economically, and what can be done to prevent the larger damage from earthquakes? Let us not forget that in Mexico City for example, there are historic buildings and all sorts of old buildings which withstood the 1985 earthquake. They did not fall. Modern buildings collapsed but not the ancient ones. So what I mean is it is difficult to prevent people from building their homes in areas because this could be very disaster-prone but it is possible to force them to build according to certain standards that can protect their homes and their lives.

PFAEFFLE: Mr. Boullé, how do you explain the psychology of people who keep rebuilding their homes, expensive homes, in earthquake-prone areas, like California was mentioned a while ago, or let's say Nicaragua for instance? The city of Managua was built,

practically rebuilt in the same spot. How do you explain this?

BOULLÉ: Well, we have to ask the people themselves. But there may be certain reasons that can be advanced you know. Sometimes a city is built where it is convenient to have traffic, you know from water or from roads, etc., and so there is a certain economic reason to have the city there. The second thing is people get very much attached to the place in which they live and this is what has been perhaps missing in disaster prevention up till now. It's taking into account the real perceptions of people. So we will have, very often, this attitude of perception which prevails over for that reason. Well there is another perhaps area which is – you mentioned California – there is a rule from the insurance industry and you know if you insure your home and it goes and you get back what you put in it, then why change. And so the insurance industry right now is looking in many countries into premiums that are linked to the precautions you take, not premiums that are spread over the whole number of insurees but rather you have to take certain precautions if not you will not get the necessary insurance. So there is an economic way of pushing people ....

LITTLEJOHNS: And are you encouraging that in your ...

BOULLÉ: Yes, absolutely. We work with insurance companies around the world – and some of them are re- insurance companies – in order to try to get some of these policies in place.

WILLIAMS: Hollywood has produced several movies involving large bits of meteorites dropping on earth.

BOULLÉ: Yes.

WILLIAMS: Is this one of your projects? I know sometimes it is being presented as an attempt to get Star Wars back up there again so they can get their military toys in space.

BOULLÉ: We have not looked into that because unfortunately earthquakes, forest fires, floods, etc. take so much of our time. These new let's say episodes of natural or meteorite hazards are left out but I mean it seems also that their frequency or intensity would be fairly small.

WILLIAMS: But fairly catastrophic if the dinosaurs are any witness....

BOULLÉ: Obviously. No it would be interesting to know if ever one of these meteorites fell somewhere whether they could cause more problems than a bigger earthquake or you know. But we better perhaps not have the real demonstration.

LITTLEJOHNS: Mr. Boullé, you mentioned Mexico City and the earthquake-prone cities of China, which cities of the world are the most dangerous in terms of risk of natural disasters, including earthquakes, or what other disasters are natural?

BOULLÉ: It is very difficult to give a rating to all of these cities around the world and especially if you cannot give the frequency at which your disaster might come. It is obvious that if your city is located right on top of a fault, you know, you might suffer a bigger earthquake. It is obvious that if your city is very, very large casualties, will be larger ...

LITTLEJOHNS: Difficulty of evacuating the people?

BOULLÉ: Yes. But there are not only cities, but if you should look at Bangladesh or some of the human settlements around deltas, they are prone to disasters too. But the important thing is for populations to be aware of the dangers and for science and technology to try to bring knowledge to these populations through local communities; knowledge which is understandable and acceptable because there is one thing clear about prevention or mitigation, if you don't want to have it, it won't work. It cannot be imposed from outside. My message is that if you live in what is called an earthquake-prone city, you have just to know that it is earthquake-prone and you have to know what are the possible dangers. But it should not be a matter of scare for you to even go in another place which never suffered a disaster but just because you are there it's going to get one.

LITTLEJOHNS: This is World Chronicle. Our guest is Philip Boullé, Director of the Secretariat for the International Decade for Natural Disaster Reduction.

PFAEFFLE: I would like to come to this insurance company point and the cost to the insurance industry is staggering, so when you look into the future and see the number of natural disasters increasing, there must be a point at which these insurance companies will no longer be able to finance it?

BOULLÉ: Yes. Obviously this is why the insurance industry is now getting very much interested in this business and, in fact, they are working with the World Bank – several of the re-insurance companies – and some regional development banks into trying to find out how to approach the subject. But as you know, insurance normally means you have a risk, it is estimated, you have a premium and you know if the damage happens it is spread over a number of people who have been insured. However, as you say, there is a total capacity. People say that if the Kobe earthquake had been happening in a bigger city, even in the same country, the insurance companies would be in a very difficult position. So this is why the issue is really to try to link premiums to precautionary measures or to measures of prevention. Because in certain countries you have an insurance which just spreads the risk, you know, and it does not incite you to try to do something in order to protect your property and yourself. So this must be changed.

WILLIAMS: The point about natural disasters is they are natural. For example when the Egyptians stopped the Nile flood they discovered that as well as getting a lot of water and electricity, the natural fertilizer, the natural sort of cycle along the Nile was stopped, and even now I think there are problems because the actual crest is tilting so the water levels are changing drastically in the delta itself. You know American forest fires, for example, they now decide to let them burn because it's part of the natural cycle. To what extent should we regard floods and earthquakes as part of the natural cycle of life including humanity, and let them roll?

BOULLÉ: Well, your first find about the fact that if disasters are man-made I would say yes. I say that natural hazard is not man-made it's there. While a disaster is very often man-made it's because we have changed the course of rivers, we built dams and we let people build along coasts in the Nile etc., and disasters happen. So therefore, there is this question of no disaster is simply natural. But the issue of whether one should let forests burn or nature follow its course, yes, we have to try to accommodate as much as possible the natural happenings. At the same time we have settled on this earth and we are trying therefore to create a balance between our needs on one side and what nature tells us not to do on the other side. An example. If you are in an island and you are into

tourist industry, where will you build your hotel? You will try to build it on a nice cove with a nice beach, etc. and this is the place where the hurricane will hit the worst. So you have to make a balance between the need to exploit, if I could say so, your natural resources of environment and beauty, etc. against the risk that it would withstand. So this is the problem for us and I think it can be said, it's a sword sometimes of a problem between industry and environment and this sort of thing.

LITTLEJOHNS: Mr. Boullé, what would you say have been the main achievements so far of this International Decade for Natural Disaster Reduction?

BOULLÉ: First, it was a ten-year programme. So those who introduced it did not think that it could be done in one year and one of the most important achievements perhaps is the beginning of a change in attitude towards disasters – that you can do something to prevent their effects. It's not yet there fully everywhere but it's there at least in the large part of the population.

LITTLEJOHNS: How have you managed to bring that about? Through publicizing ...

BOULLÉ: Well a lot of advocacy, a lot of new partnerships with all the organizations of the UN system, each in their own field. You know there is no exclusivity in that field, everybody must work together. The most difficult part is sometimes with decision makers because decision-makers, mayors or, you know, business people, etc., when they make a decision, it has an economic impact of economic sanction immediately.

LITTLEJOHNS: And they tend to think in the short term rather than in the longer term.

BOULLÉ: Yes, exactly. So that's one field. The second field is a lot of countries – look at the case of Bangladesh, look at the case of China and compare statistics of economic losses and of losses of life over the past ten or fifteen years and you will see that there is a reduction in these numbers. I would say that in most islands now, when there is a cyclone, the number of deaths is fairly low because precautions are being taken etc. It does not mean that there would be a much larger catastrophe suddenly somewhere which would not upset some things but at least there are some areas where you can see things. I

give you the last example. In 1985, as you know, in Nevada del Huila had a very strong eruption and there was a mud flow which completely wiped out the town of Almeiro with twenty-five thousand people. And five years later there was the same sort of happening in the Philippines after the eruption of Pinatubo. There was a village which was touched by the mud flow, five hundred people died, not twenty-five thousand or twenty thousand, because evacuation procedures had time to be put in place and people knew that something had to be done – that something had to be done about this. So I think one can look at various steps that were taken during these ten years to show that we have been able to place disaster reduction firmly into the sustainable development area and it is something which needs to be dealt with. But, but if we stop now, if we suddenly say we had a decade and it is over, if we forget about disaster reduction, mitigation, prevention, then we will be in trouble. And so the visibility of the effort and the multi-sectoral aspect of the effort must be kept.

PFAEFFLE: Mr. Boullé, some natural disasters are linked to global warming and there is a conference coming up in Argentina. Do you expect any results from that Conference.

BOULLÉ: Yes, ye but it depends what results mean also. I think this is also a question of attitude, which I referred to and I mentioned, you know, the person who finds a cure for cancer. I mean, there will be results from this conference, but it will not overnight change the world. Things take time to change and so progress is sometimes to be assessed in steps rather than in big issues. Now I am not too much familiar about this conference and perhaps it will have spectacular progress somewhere. I wish that UNEP and the other agencies involved ...

LITTLEJOHNS: The UN Environment Programme

BOULLÉ: ... do well with that conference and obviously we should wish for success and for great success.

PFAEFFLE: But some major countries are still opposed to cutting down their carbon dioxide emissions and I think that's probably one of the problems that's being tackled down there.

BOULLÉ: Absolutely. So this is certainly a field in which I hope that progress will be made.

WILLIAMS: We are actually recording this programme in New York and one of the biggest culprits we have scrupulously failed to mention so far is the federal government in the US, because of political pressure, provides the funds to reinsure the people on the flood zones and the people who build on the sand bars. They get washed away every year and rebuild. Do you think the governments can withstand the pressures to stop this sort of cycle of pork rolling into the sea?

BOULLÉ: Well, I hope so. I should add that this government, the US government, has got one of the best programmes for natural disaster reduction. It was enacted or approved in 1996 and it goes exactly in the right direction everywhere. So like within the United Nations system, or within the government you have opposing forces that sort of try to work together towards a common goal and sometimes you know the environment gains, sometimes in industry. I think it is important for the US to stay, well to show the way and do the right things there.

LITTLEJOHNS: Mr. Boullé, you have spoken about El Nino. Now we are faced with La Nina, I think.

BOULLÉ: Yes.

LITTLEJOHNS: Which is likely to send temperatures down. What are you guys doing in preparation for that situation?

BOULLÉ: First, about El Nino. El Nino we insisted with... By the way, we have governments who adopted a resolution in the UN about looking at the scientific and technical elements of El Nino and how were provisions, the forecasts, going to be turned into acceptable concrete facts for people on the ground. Predictions were good. The translation of the application of science and technology at the local level, this is not yet done. So we will have a conference in Ecuador in November which will look at how predictions were made, how accurate they were and whether they were followed by decision leaders and why were they not followed if they were not followed. And also how can you use the language of meteorologists or of hydrologists to give a message which the

common person in a city or in the country understands. So this is the first part of dealing with El Nino. La Nina is, you know, comes just after El Nino. As you said it is the cool as opposed to the hot. La Nina is going to be studied very, very thoroughly by all the partners we have, and especially with all United Nations organizations, but also the organizations in the US which deal with weather forecast, etc., and precautions will be taken where it is known that an impact should happen. If you know that drought is coming you won't stop drought from coming but what you will do is try to make sure that there is supply of food, that you know all the dangers associated with drought are dealt with. So La Nina is being looked at very carefully by all governments that will be affected but also by United Nations organizations and will provide the necessary support.

LITTLEJOHNS: Do you have scientists in your Secretariat who advise on things like this?

BOULLÉ: Not in our Secretariat because in that field, it is basically the World Meteorological Organization, UNEP. And over at UNESCO also, UNESCO has got an inter-oceanic commission which is very powerful. So this is what is done.

LITTLEJOHNS: Mr. Boullé, that's all the time we have. Thank you for being with us. Our guest has been Philippe L. Boullé, Director of the Secretariat for the International Decade for Natural Disaster Reduction. He was interviewed by Walter Pfaeffle of *Kuwait News Agency* and Ian Williams of *The Nation*.

I'm Michael Littlejohns. Thank you for joining us. We invite you to be with us for the next edition of **World Chronicle.**